

**PRACTICE TEST 3, CHAPTER 6***Beginning and Intermediate Algebra* by Elayn Martin-Gay, 6<sup>th</sup> edition

Completely factor each polynomial.

1.  $6x^2 - 9x^4$
2.  $25x^3y^5 + 15x^3y^2$
3.  $ab - ac + 3b - 3c$
4.  $2x^3 + 3x^2 + 4x + 6$
5.  $a^2 + 7a - 18$
6.  $t^2 + 5t + 5$
7.  $2p^2 - 3p - 2$
8.  $3h^2 + 19h - 14$
9.  $64y^2 - 16y + 1$
10.  $x^2 + 5xy - 24y^2$
11.  $4x^2 - 4x - 80$
12.  $5y^3 - 50y^2 + 120y$
13.  $24 + 18x + 3x^2$
14.  $22x^2 + 7x - 2$
15.  $2x^2 + 13x + 6$
16.  $x^2 - 49$
17.  $x^2 + 49$

Solve each equation using the zero product rule.

18.  $(4x - 1)(3x + 2) = 0$
19.  $x^2 + 10x + 21 = 0$
20.  $x^2 - 9 = 0$
21.  $2x^2 - 3x = 5$
22.  $16x^2 + 8x + 1 = 0$

**MATH 0304**  
**PRACTICE TEST 3 ANSWERS**

1.  $3x^2(2 - 3x^2)$
2.  $5x^3y^2(5y^3 + 3)$
3.  $(a + 3)(b - c)$
4.  $(x^2 + 2)(2x + 3)$
5.  $(a + 9)(a - 2)$
6. prime
7.  $(p - 2)(2p + 1)$
8.  $(h + 7)(3h - 2)$
9.  $(8y - 1)^2$
10.  $(x + 8y)(x - 3y)$
11.  $4(x - 5)(x + 4)$
12.  $5y(y - 6)(y - 4)$
13.  $3(2 + x)(4 + x)$  or  $3(x + 2)(x + 4)$
14.  $(2x + 1)(11x - 2)$
15.  $(2x + 1)(x + 6)$
16.  $(x - 7)(x + 7)$
17. prime
18.  $x = \frac{1}{4}$ ,  $x = \frac{-2}{3}$
19.  $x = -7$ ,  $x = -3$
20.  $x = 3$ ,  $x = -3$
21.  $x = -1$ ,  $x = \frac{5}{2}$
22.  $x = \frac{-1}{4}$